

a portable game machine, an electronic book, etc.); and an image reproducing device (specifically, a device capable of processing data in a recording medium such as a digital versatile disk (DVD) and having a display device that can display the image of the data). The light emitting device having an EL element is desirable particularly for a portable information terminal since its screen is often viewed obliquely and is required to have a wide viewing angle. Specific examples of the electric equipment are shown in Figs. 11A to 11H.

Fig. 11A shows an EL display device, which comprises a casing 2001, a supporting base 2002, a display unit 2003, speaker units 2004, a video input terminal 2005, etc. The light emitting device to which the repairing method of the present invention is applied can be used for the display unit 2003. The light emitting device having an EL element is self-luminous and does not need a backlight, so that it can make a thinner display unit than liquid display devices can. The term EL display device includes every display device for displaying information such as one for a personal computer, one for receiving TV broadcasting, and one for advertisement.

Fig. 11B shows a digital still camera, which comprises a main body 2101, a display unit 2102, an image receiving unit 2103, operation keys 2104, an external connection port 2105, a shutter 2106, etc. The light emitting device to which the repairing method of the present invention is applied can be used for the display unit 2102.

Fig. 11C shows a notebook computer, which comprises a main body 2201, a casing 2202, a display unit 2203, a keyboard 2204, an external connection port 2205, a pointing mouse 2206, etc. The light emitting device to which the repairing method of the present invention is applied can be used for the display unit 2203.

Fig. 11D shows a mobile computer, which comprises a main body 2301, a display unit 2302, a switch 2303, operation keys 2304, an infrared ray port 2305, etc. The light

emitting device to which the repairing method of the present invention is applied can be used for the display unit 2302.

Fig. 11E shows a portable image reproducing device equipped with a recording medium (a DVD player, to be specific). The device comprises a main body 2401, a casing 2402, a display unit A 2403, a display unit B 2404, a recording medium (DVD) reading unit 2405, operation keys 2406, speaker units 2407, etc. The display unit A 2403 mainly displays image information whereas the display unit B 2404 mainly displays text information. The light emitting device to which the repairing method of the present invention is applied can be used for the display units A 2403 and B 2404. The term image reproducing device equipped with a recording medium includes video game machines.

Fig. 11F shows a goggle type display (head mounted display), which comprises a main body 2501, display units 2502, and arm units 2503. The light emitting device to which the repairing method of the present invention is applied can be used for the display units 2502.

Fig. 11G shows a video camera, which comprises a main body 2601, a display unit 2602, a casing 2603, an external connection port 2604, a remote control receiving unit 2605, an image receiving unit 2606, a battery 2607, an audio input unit 2608, operation keys 2609, etc. The light emitting device to which the repairing method of the present invention is applied can be used for the display unit 2602.

Fig. 11H shows a cellular phone, which comprises a main body 2701, a casing 2702, a display unit 2703, an audio input unit 2704, an audio output unit 2705, operation keys 2706, an external connection port 2707, an antenna 2708, etc. The light emitting device to which the repairing method of the present invention is applied can be used for

the display unit 2703. If the display unit 2703 displays white characters on a black background, power consumption of the cellular phone can be reduced.

If the luminance of light emitted from EL materials is increased in future, the light emitting device having an EL element can be used also in a front or rear projector in which light bearing outputted image information is magnified by a lens or the like to be projected on a screen.

The electric equipment given in the above often displays information distributed through electronic communication lines such as Internet and CATV (cable television), especially, animation information with increasing frequency. The light emitting device having an EL element is suitable for displaying animation information since EL materials have fast response speed.

In the light emitting device, portions that emit light consume power. Therefore it is desirable to display information such that as small portions as possible emit light. Accordingly, if the light emitting device is used for a display unit that mainly displays text information such as a portable information terminal, in particular, a cellular phone, and an audio reproducing device, it is desirable to assign light emitting portions to display text information while portions that do not emit light serve as the background.

As described above, the application range of the light emitting device to which the present invention is applied is very wide and electric equipment of every field can employ the device. The electric equipment in this embodiment may use any of the structures shown in Embodiments 1 through 11.

#### [Embodiment 13]

This embodiment describes a case of applying a repairing method of the present invention to a passive (simple) matrix light emitting device.